transmissions from the generator monitor 10 and then measure the surge load when recording the load level on the display. Measuring the surge load of the appliance and then monitoring the Generator Available Power Continuous (GAPC) transmitted via transmissions 17 from the generator monitor 10, provides a safety margin equal to the surge capacity of the generator. Alternate embodiments of the invention can incorporate safety margins by using GAP levels that are calculated from lower reference outputs.

An enhanced embodiment of the invention is a user display 30 that can determine which appliance load, surge, continuous or calculated load in-between, is best referenced when notifying the user. This process is shown in Figure 7b as a replacement option to step 353 "Measure Appliance Load, Register Load Level on Display, and Prompt for Appliance Name/Icon" in Figure 7a. This determination is based on a comparison of the appliance's surge and continuous loads, and the generator's surge and continuous capabilities. The user display 30 first calculates the generator surge margin by simply calculating the difference in the generator available power surge (GAPS) and generator available power continuous (GAPC) levels being transmitted from the generator monitor 10 in step 381 of Figure 7b. Provided the generator is not about to be overloaded, this difference should be the actual difference in the two rated power outputs of the generator. When assigning a new load to an appliance, the user display 30 measures the surge and continuous load of the appliance in step 382. The process then calculates a surge margin in step 383 for the measured appliance. The appliance surge margin is calculated as the appliances measured surge load minus the measured continuous load in step 383 of Figure 7b. The surge margin of the appliance is compared to the surge margin calculated for the generator in step 384. If the generator surge margin is larger than the surge margin for the appliance, the process proceeds along path 385, and the user display 30 presents the measured continuous load in step 387 on the user display 30 at the end of the measure load process. Generators with large surge margins cause this result more frequently. If the generator surge margin is smaller than the appliance surge margin in step 386, then the display monitor follows path 386 to calculate and present the result of step 388. In step 388 the measured continuous load of the appliance is added to the difference of the appliance surge margin ASM, minus the generator surge margin GSM.

These processes in the present invention make the user displays self-adjusting to both the generator's capabilities and the appliance load characteristics, and present one appliance load to the user for a yes or no indication as to whether or not the appliance can be activated with the current load on the generator. The user display 30 then prompts the user to label or assign an icon to the measured appliance, as shown in step 389.

The user display can also be equipped with the power reserve option similar to the option for the interrupt switch. This can be used to reserve power, again for appliances that use varying load levels during a cycle. An example of such an appliance is a dishwasher. Given the dishwashers are frequently either hard wired or have outlets and plugs in locations that are hard to access, the appliance can be managed with a power reserve function on a local user display. The user display can have a power request button that transmits an instruction to the generator monitor 10 telling it to reduce some or all of the reference outputs used to calculate GAP levels. In most embodiments of the invention, the instruction lowers all reference outputs with the exception of the reference output used to calculate the GAP level monitored by the user display requesting the power reserve. User displays could be designed to measure the maximum surge and continuous loads during a given appliance cycle, provided the appliance is plugged into the user display during this process, or the maximum surge and continuous loads of the appliance cycle can be input manually to the user display. The user presses the power reserve button, and waits until the user display shows enough power available to activate the appliance cycle. Once the user display showed sufficient GAP level, the user can activate or turn on the appliance. With the power reserve function the system reserves enough power for the duration of the appliance cycle.

An additional feature for drawing the users attention to a low GAP level is an outlet block or cover, activated by the user display 30, when ever the GAP level falls below a set point. Given the user display 30 informs the user of the available power, the decision to use or not to use power is left with the user. If the user forgets to check the display and turns on an appliance that overloads the generator, then the circuit breaker trips and the aforementioned frustrations occur. The physical block of the cover draws the user's

attention to this low GAP condition and helps avoid oversight. The cover can be a simple mechanical device that covers the outlet opening, preventing the insertion of an appliance plug. There can also be an override for the user to activate causing the cover to retract and allow access to the outlet. An example of this embodiment of the invention is a user display 30 in the bathroom, where local appliances are an electric razor, electric toothbrush and a hairdryer. The razor and toothbrush are both under 100 Watts and present little danger of overloading a generator. However, the hairdryer has three power settings of 800 Watts, 1200 Watts and 1600 Watts. In this configuration the user may decide to set the user display 30 to trigger the outlet cover at a GAP level of 800 Watts. With this user determined setting, if the GAP transmission falls below 800 Watts, the cover closes. If a user tries to plug an appliance cord into the outlet, the cover prevents insertion of the plug. The blocking cover reminds the user to check the user display 30 for the appliances that can and cannot be activated. For a monitored GAP level of 500 Watts the outlet cover is closed and the user display 30 presents the electric razor and electric toothbrush as appliances that can be activated and the hair dryer as an appliance that can not be activated at any of its power levels (800 Watts, 1200 Watts or 1600 Watts). If the user wants to activate the electric toothbrush, checking the display shows there is enough power to support the load of the toothbrush. The user can select the over ride, the outlet cover retracts and the toothbrush can be plugged in and activated. If the user wants to activate the hairdryer, the user display 30 shows the low GAP level and the user knows that other appliances must be turned off before the hair dryer load can be activated. The user can turn off other loads until the user display 30 indicates a GAP level greater than 800 Watts at which time the user display retracts the outlet cover.

An additional feature of the user display 30 is to have an adjustable circuit breaker built into the user display's outlets. These circuit breakers can have their breaker level adjusted to the GAP level received, or to a lower level depending on design and intended safety margin. This causes the circuit breaker on the user display 30 to trip first when an appliance with a load in excess of the current GAP level is activated. Resetting the circuit breaker on the user display 30 is far easier than the breaker outside on the generator.